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OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P. 1940 DUKE STREET ALEXANDRIA, VA 22314				
EXAMINER BROOKS, JERRY L.				
ART UNIT		PAPER NUMBER		
2878				
NOTIFICATION DATE		DELIVERY MODE		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/584,056

Applicant(s)

FACIUS ET AL.

Examiner

JERRY BROOKS

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-24 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 13-24 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SE-US)
Paper No(s)/Mail Date 06/22/2006
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 17 recites the limitation "the polarization selective beam splitting device or its polarization selective beam splitting interface" in line 4. There is insufficient antecedent basis for this limitation in the claim. For purposes of examination, the examiner has interpreted the claim 17 depend from claim 16.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 13 - 19, 23 and 24 are rejected under 35 U.S.C. 102(e) as being anticipated by Janssen (US 2003/0223044).

With respect to claim 13, Janssen discloses an image generation unit (fig.2), comprising: a light input section (the light entrance surface of 203, adjacent to the light source, see fig.2) configured to receive primary illumination

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light (211) from a first or light incidence direction (light moves toward projection lens 210);

an image generation element arrangement (see fig.2, 204) configured to produce an image by using the primary illumination light or a derivative of the primary illumination light (204 is an LCD configured to modulate the primary illumination light) and to thereby generate secondary illumination light (light emitted from the surface of LCD); and a light output section (the light exit surface of 203, adjacent to projection lens 210, see fig.2) configured to emit the secondary illumination light or a derivative of the secondary illumination light as tertiary illumination light representative for the image in a second or image emission direction (light is emitted from exit surface of prism 203 towards the projection lens 210 in a second emission direction), wherein the light input section (the light entrance surface of 203, adjacent to the light source, see fig.2) and the light output section (the light exit surface of 203, adjacent to projection lens 210, see fig.2) are arranged such that the first or light incidence direction and the second or image emission direction are collinear coincident with respect to each other (the light input section and the output section are arranged such that the first and second directions which are both toward the projection lens are collinear coincident), and wherein the respective collinearly and coincidence properties of the first and second directions with respect to each other are realized by a single optical folding element only (the respective collinearly and coincidence properties of the first and second directions with respect to each other are realized by prism 203 only).

With respect to claim 14, Holman discloses an image generation unit according to claim 13, further comprising a polarization selective beam splitting device (beam splitting prism in 203) provided as the single optical folding element and including a light input section (the light entrance surface of 203, see fig.2) serving as the light input section of the image generation unit or as a part thereof, and a light output section (the light exit surface of 203, see fig.2) serving as the light output or light emission section of the image generation unit or as a part thereof.

With respect to claim 15, Holman discloses an image generation unit according to claim 14, wherein the polarization selective beam splitting device includes a beam splitting cube (203), a first pair of opposing surfaces (the light exit surface and light entrance surface of 203, see fig.2) serving as the light input section (the light entrance surface of 203, see fig.2) of the image generation unit or as a part thereof and as the light output section (the light exit surface of 203, see fig.2) of the image generation unit or as a part thereof, respectively.

With respect to claim 16, Holman discloses an image generation unit according to claim 14, wherein the polarization selective beam splitting device comprises a polarization selective beam splitting interface configured to reflect light of a first or p-polarized/s- polarized polarization state and configured to

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transmit light of a second or s-polarized/p- polarized polarization state (transmits p-light and reflects s-light: see paragraph 0034 and 0035).

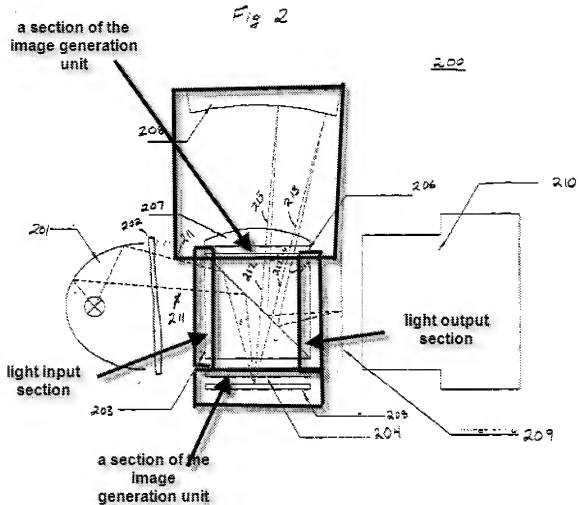
With respect to claim 17, Ho discloses an image generation unit according to claim 16, wherein at least one of the image generation element arrangement or elements or parts thereof (205) are positioned outside a path or passage defined by the first and second directions outside the polarization selective beam splitting device (203) or its polarization selective beam splitting interface (the image generation element is positioned outside a path or passage by the first and second directions: see fig.2).

With respect to claim 18, Ho discloses an image generation unit according to claim 13, wherein the image generation arrangement comprises a reflective imager panel element in a form of a LCD-panel configured to controllably generate an image (last sentence of 0028).

With respect to claim 19, Holman discloses an image generation unit according to claim 13, wherein the image generation element arrangement comprises a mirror (208) configured to receive light reflected by the polarization selective beam splitting interface or a derivative thereof (light beam 212 is a derivative of the light reflected by the polarization device) and to reflect the received light (212: light 212 is rotated and then reflected back by 208) back,

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thereby changing its polarization state from p to s and/or from s to p, respectively (212 is changed from p to s).



With respect to claim 23, Holman discloses an image generation unit according to claim 13, wherein the opposing sections of the image generation unit and of the polarization selective beam splitting device are perpendicular oriented with respect to the light input or light incidence section and the light output or light emission section of the image generation unit (see fig.2 above wherein the opposing sections of the image generation unit and of the

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polarization selective beam splitting device are perpendicular oriented with respect to the light input or light incidence section and the light output or light emission section of the image generation unit), and are perpendicular oriented with respect to the light input section and the light output section of the polarization selective beam splitting device (see fig.2 wherein the opposing sections of the image generation unit and of the polarization selective beam splitting device are perpendicular oriented with respect to the light input section and the light output section of the polarization selective beam splitting device).

With respect to claim 24, Holman discloses an image projection device (fig.2), comprising: an illumination unit (201) configured to generate primary illumination light, an image generation unit (204, 208, 206, 207, 205, 203 comprise the image generation unit) configured to receive the primary illumination light and to generate and emit an image; and a projection unit (210) configured to receive and project the image, wherein the image generation unit is formed according to claim 13 (see discussion in claim 13 above).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 20 - 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Janssen (US 2003/0223044) in view of O'conner (US 2004/0145703).

With respect to claim 20, Janssen discloses an image generation unit according to claim 13 as discussed above, but does not disclose wherein the image generation element arrangement comprises a color switching element configured to controllably generate at least one first spectral component of incident light and to avoid transmission of the complimentary spectral range of the at least one first spectral range.

O'conner discloses an image projection unit with a polarizing beam splitter (42) wherein the image generation element arrangement (see fig.5) comprises a color switching element (16) configured to controllably generate at least one first spectral component of incident light and to avoid transmission of the complimentary spectral range of the at least one first spectral range (see paragraph 0022 wherein at least one first spectral component is generated (green is reflection by the color switch and thus green light is generated)) and to avoid transmission of the complimentary spectral range of the at least one first spectral range (color switch avoids the transmission of the complimentary spectral range by allowing them to pass through color switch to be discarded).

It would have been obvious to one of ordinary skill in the art to modify the image generation unit of Janssen with the optical switch and supporting structure of O'conner to improve the spectral purity of Janssen's device thereby improve color contrast.

With respect to claim 21, Janssen in view of O'conner discloses an image generation unit according to claim 20, wherein the color switching element comprises a quarter wave retarder and a reflective electronic color switch (see paragraph 0022 wherein the color switch phase retards red and blue light by 45 degrees thereby disclosing a quarter wave retarder and wherein the green light is reflected thereby disclosing the electronic color switch as reflective).

With respect to claim 22, Janssen in view of O'Conner discloses an image generation unit according to claim 21, Janssen discloses wherein the imager panel element and an reflective arrangement together (208 and supporting structure) are configured at or in a second pair of opposing sections of the image generation unit and of the polarization selective beam splitting device (see fig.2 above), the opposing sections being different from the light input or light incidence section and the light output or light emission section (again see figure 2 above) of the image generation unit, and further the opposing sections are different from the light input section and the light output section of the polarization selective beam splitting device (again see figure 2 above wherein the opposing sections are different from the light input section and the light output section of the polarization selective beam splitting device).

Janssen does not explicitly disclose the reflective arrangement with the color switch.

O'Conner discloses an image projection unit with a polarizing beam splitter (42) wherein a reflective arrangement (color switch and supporting structure) has a color switch (16).

It would have been obvious to one of ordinary skill in the art to modify the reflective unit of Janssen with the optical switch and supporting structure of O'Conner to improve the spectral purity of Janssen's device thereby improve color contrast.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JERRY BROOKS whose telephone number is (571)270-5711. The examiner can normally be reached on Monday-Friday, 9 a.m.- 5 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on (571) 272-2328. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JERRY BROOKS/
Examiner, Art Unit 2878

/Georgia Y Epps/
Supervisory Patent Examiner, Art
Unit 2878